

Customer No.: 31561
Docket No.: 12810-US-PA
Application No.: 10/711,282

REMARKS

Present Status of the Application

Claims 1-13 are pending. The Office Action rejected all presently-pending claims 1-13. Specifically, the Office Action rejected claims 1-7 under 35 U.S.C. 103(a), as being unpatentable over Hibino et al. (U.S. Patent No 6,800,010). The Office Action rejected claims 8-13 under 35 U.S.C. 103(a), as being unpatentable over Shichao et al. (U.S. Patent No 6,800,010). Applicants respectfully traverse the rejections, and reconsideration of all presently-pending claims 1-13 is respectfully requested.

Discussion of Office Action Rejections

1. The Office Action rejected claims 1-7 under 35 U.S.C. 103(a), as being unpatentable over Hibino et al. (U.S. Patent No 6,800,010). Applicants respectfully traverse the rejections for at least the reasons set forth below.

(a) Independent claim 1 recites the features as follows:

1. A cold cathode fluorescent flat lamp, comprising:
a cavity shell;

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a plurality of spacers, disposed in the cavity shell, wherein a tolerance of a height of the spacers is larger than about 0.01 mm, or the tolerance of the height of the spacers is in a range of about 1/20 to about 1/4 of the height of the spacers;

a hardening paste, disposed between the cavity shell and the spacers;
at least an electrode set, disposed on the cavity shell;
a fluorescent substance, disposed on an inner wall of the cavity shell; and
a discharge gas, disposed in the cavity shell.

(emphasis added)

(b) In Page 3, 5 and 6 of the instant Office Action, the Examiner stated that "Further evidence that these limitations would have been obvious can be found in paragraph [0014] of Applicant's instant specification, wherein Applicant indicates these dimensions are not limiting, but merely example".

In paragraph [0013] of instant specification, Applicant disclosed that "... The tolerance of the height of the spacers is larger than about 0.01mm, or in a range of about 1/20 to about 1/4 of the height of the spacer, wherein the tolerance is defined as the difference between the maximum height and the minimum height of the spacer ...". Obviously, Applicant did NOT indicate the dimensions recited in claims 1 and 8 are merely illustrated for example. Additionally, in claims 1 and 8, Applicant have definitely limited that the tolerance of

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the height of the spacers must larger than about 0.01mm, or in a range of about 1/20 to about 1/4 of the height of the spacer.

In paragraph [0014] of instant specification, Applicant disclosed that, "In one embodiment of the invention, the height of the spacer is, for example but not limited to, in a range of about 1mm to about 2mm ...". From the disclosure, Applicant considers that "the height of the spacers is about 1mm to about 2mm" is an example for illustrating the present invention. Specifically, Applicant did not state that "the tolerance of the height of the spacers larger than about 0.01mm, or in a range of about 1/20 to about 1/4 of the height of the spacer" is merely an example for illustrating the present invention. Therefore, Applicant considers that paragraph [0014] of instant specification can not be considered as a further evidence to prove the limitations recited in claims 1 and 8 are obvious.

(c) U.S. Patent No 6,800,010 relates to PDP manufacturing. Generally, phosphors used in PDP include red, green and blue phosphors capable of emitting three primary color lights. The red, green and blue phosphors are coated on different sub-pixels, respectively. However, in CCFFL, the phosphor used therein is a mixture of different kinds of phosphor. The mixture of different kinds of phosphor is coated in the cavity shell. Therefore, one ordinary skilled in the art would "NOT" correlate a "PDP" with a "CCFFL".

In the PDP, a plurality of independent display cells are defined by the barrier ribs such that the display cells can be driven by corresponding addressing line and data line correctly. In other words, the barrier ribs can prevent the display cells from error discharge. However, in

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CCFFL, the spacers used therein would not divide the cavity shell into several independent spaces and the discharge phenomenon would not be blocked by the spacers. Therefore, one ordinary skilled in the art would “NOT” correlate a “PDP” with a “CCFFL”.

In order to facilitate mass-production of CCFFL, the tolerance of the height of the spacers is required to be limited in 0.01mm or less. Since the dimension uniformity of the spacers is restricted, the cost for manufacturing the spacers is increased significantly, and thus the process time is increased. Generally, ordinary skilled in the art would concentrate his attention on how to fabricate spacer with better dimension uniformity, i.e. ordinary skilled in the art would not act in a diametrically opposite way to fabricate spacer with larger tolerance without teaching or suggestion.

(d) In re U.S. Patent No 6,800,010, Hibino et al. were silent to “the tolerance of a height of the spacers is larger than about 0.01 mm, or the tolerance of the height of the spacers is in a range of about 1/20 to about 1/4 of the height of the spacers”. Applicant submits that one ordinary skilled in the art would “NOT” be motivated to construct Hibino’s barrier ribs with a tolerance of about 0.01 mm, or in a range of about 1/20 to about 1/40 the height of the barrier ribs, since one ordinary skill in the art would “NOT” correlate an display panel with a cold cathode fluorescent flat lamp. In other words, one ordinary skilled in the art would “NOT” correlate a “display” with a “lamp” because the display has a plurality of displaying pixels for showing images and the cold cathode fluorescent flat lamp (CCFFL) has no pixel for showing images. Specifically, the display panel disclosed by Hibino et al. is a kind of display for showing

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static images or dynamic images while the cold cathode fluorescent flat lamp (CCFFL) is a kind of plane light source. One ordinary skilled in the art would "NOT" consider that displays and lamps belong to the same technical field.

The barrier ribs 18 disclosed by Hibino et al. is not equivalent to the spacers recited in claim 1 because the barrier ribs 18 used in the display panel have function of defining the position of the displaying pixels while the spacers do not have such function. In addition, Applicants submit that it is "NOT" well-known that the height tolerance of the spacers should be larger than about 0.01 mm, or the height tolerance of the spacers should be in a range of about 1/20 to about 1/4 of the height of the spacers. Applicants consider that there must be some reason for the selection of height tolerance of the spacers other than the hindsight gleaned from the invention.

2. The Office Action also rejected claims 8-13 under 35 U.S.C. 103(a), as being unpatentable over Shichao et al. (U.S. Patent No 6,800,010). Applicants respectfully traverse the rejections for at least the reasons set forth below.

Independent claim 8 recites the features as follows:

- 8. A cold cathode fluorescent flat lamp, comprising:
 - a cavity structure, comprising:
 - a cavity shell;

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a plurality of spacers, disposed in the cavity shell, wherein a tolerance of a height of the spacers is larger than about 0.01 mm, or the tolerance of the height of the spacers is in a range of about 1/20 to about 1/4 of the height of the spacers; and

a hardening paste, disposed between the cavity shell and the spacer.

(emphasis added)

In re U.S. Patent No 6,800,010, Shichao et al. were silent to "the tolerance of a height of the spacers is larger than about 0.01 mm, or the tolerance of the height of the spacers is in a range of about 1/20 to about 1/4 of the height of the spacers". Applicant submits that one ordinary skilled in the art would "NOT" be motivated to construct Shichao's spacer with a tolerance of about 0.01 mm, or in a range of about 1/20 to about 1/40 the height of the spacers, since one ordinary skill in the art would "NOT" correlate an electric fluorescent display with a cold cathode fluorescent flat lamp. In other words, one ordinary skilled in the art would "NOT" correlate a "display" with a "lamp" because the display has a plurality of displaying pixels for showing images and the cold cathode fluorescent flat lamp (CCFFL) has no pixel for showing images. Specifically, the electric fluorescent display disclosed by Shichao et al. is a kind of display for showing static images or dynamic images while the cold cathode fluorescent flat lamp (CCFFL) is a kind of plane light source. One ordinary skilled in the art would "NOT" consider that electric fluorescent displays and lamps belong to the same technical field. Therefore, the

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content disclosed by Shichao et al. should not be applied to the CCFFL without further teaching or suggestion.

For at least the foregoing reasons, Applicant respectfully submits that all presently pending claims 1-13 patently define over the prior art references, and should be allowed.

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-13 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

Date :

Sept. 7, 2006

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